

In the Claims

Cancel Claims 5 and 6 and rewrite Claims 2 and 3 as follows:

What Is Claimed:

1. (Canceled)

2. (Currently amended) A packer cup for use sealing an annulus within a pipe comprising:

an elongated, hollow sleeve having first and second end openings disposed, coaxially, along the longitudinal axis of said sleeve, said sleeve having a bell-shaped portion surrounding the first end and a tubular portion surrounding the second opening; said bell-shaped portion having an outer diameter adapted to be slightly less than the inner diameter of said pipe; a lip surrounding said first opening integral with said sleeve, said sleeve and lip being constructed of an elastomeric material with said lip of a ~~lower density and~~ harder material than said sleeve wherein said sleeve and lip are constructed from polyurethane.

3. (Currently amended) A packer cup for use sealing an annulus within a pipe comprising:

an elongated, hollow sleeve having first and second end openings disposed, coaxially, along the longitudinal axis of said sleeve, said sleeve having a bell-shaped portion surrounding the first end and a tubular portion surrounding the second opening; said bell-shaped portion having an outer diameter adapted to be slightly less than the inner diameter of said pipe; a lip surrounding said first opening integral with said sleeve, said sleeve and lip being constructed of an elastomeric material with said lip of a ~~lower density and~~ harder material than said sleeve further comprising a metal sleeve disposed in said elastomer sleeve disposed within the second opening.

4. (Original) The cup of claim 3 wherein said metal sleeve is secured within said cup by adhesive.

5. (Canceled) The cup of claim 2 wherein the density of said lip is about 1.07 and said sleeve has a density of about 1.3.

6. (Canceled) The cup of claim 2 wherein said sleeve is about 0.2 denser than slip.

7. (Previously Presented) The cup of claim 2 wherein the hardness of the sleeve is about 60 SHORE D.

8. (Previously Presented) The cup of claim 7 wherein the lip has a hardness of 80-95 SHORE A.

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8. (Previously Presented) The cup of claim 7 wherein the lip has a hardness of 80-95 SHORE A.

In the above-referenced Office Action the Examiner rejected the Claims under 35 USC 112 because in the Examiner's opinion the specification did not recite the limitations "the lip of a lower density and harder material than the sleeve" and "since sleeve is about 0.2 denser than the slip". The Examiner further rejected the Claims under 35 USC 112 presumably because a unit of measure for the density of the lip and sleeve was not set forth. Reconsideration of this objection and rejection is requested for the following reasons:

In the penultimate paragraph of page 7 of the Specification the densities are set forth as well as the hardness for both the cup and the lip. While units are not set forth with the density numbers, it is submitted that one of ordinary skill in the art would understand that density is read in grams per cubic centimeter. Concerning the 0.2 limitation the subtraction of the lower density number from the higher one produces a 0.2 limitation with 1.07 being rounded off to the next higher tenth, and it is also submitted that one of ordinary skill in the art would realize this.

While Applicant does not agree with the Examiner's conclusions in order to advance this case to issue references to the densities have been deleted from the Claims. The hardness numbers do have units and are well known in the art to identify such parameters. Furthermore, the hardness is related to the density, but that relationship is not set forth in the specification.

The Examiner has also rejected the Claims under 35 USC 102 citing the patent to Miser. It is requested that that rejection be reconsidered and withdrawn for the following reasons:

The device of the instant invention is a packer cup which is designed to be flexible in its entirety so that under application of pressure it can seal an annulus. Because of the flexible nature, this seal is not used with moving parts. In other words, a packer cup is intended to be lodged in the annulus between pipes and not to travel within the outer pipe. See for example the second paragraph of column 1 of the cited reference, and specifically the definition of cup-type seals which, as described, are carried by a moving element such as a pump rod or the like. Such seals as described in this reference are intended to travel within the barrel of a pump on a pump rod. The packet cup as noted above of the instant invention could not be used as a cup seal within the description set forth in the Miser patent because of the overall flexibility of Applicant's packer cup.

Column 2, lines 31 through 57, describes the Miser seal as including a "first annular section 16 comprised of a generally non-flexible, generally non-resilient material". See lines 34 through 37.

A second annular section 18 is described as being generally flexible and generally resilient with sections 16 and 18 adjoined to one another.

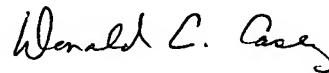
The Examiner's attention further is directed to column 3, lines 29 through 38 which teaches away from an elastomeric cup seal. The above identified text indicates that if the seal were made of elastomeric-like material it would expand radially outwardly to such a degree that "a high friction area or wear area would be caused generally in a locus determined by the radially outer surface of heel H. This high friction area, particularly if the cup seal were in abrasive conditions, would result in premature cup failure". In summary then the cup seal described in Miser is intended to move within a pump barrel or similar structure rather than expand in a fixed position.

The Claims at issue herein call for the sleeve and lip constructed of an elastomeric material and describe a packer cup not a cup seal.

Miser then teaches away from the instant invention and teaches a seal which would be incompatible for the usage set forth for the instant invention.

Applicant therefore considers this case in condition for allowance and an early notice thereof is requested.

Respectfully submitted,



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